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# High Desk with Force Sensors and Interaction Components

Brief Outline of the Idea

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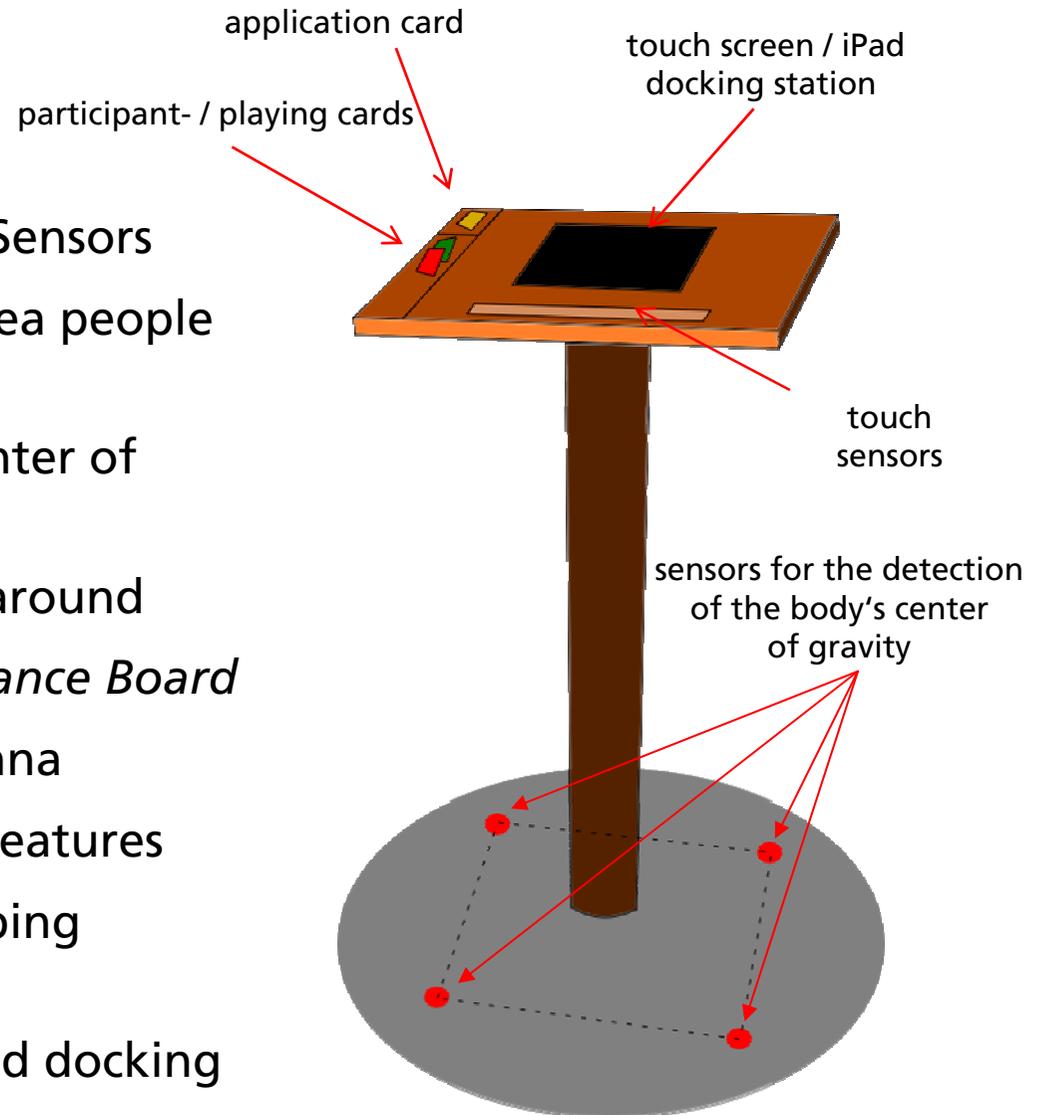
# Overview

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- Sketch
- Control Concept
- Application Scenarios

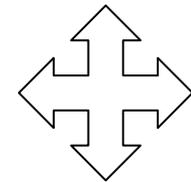
# Sketch

- High Desk with Built-in Force Sensors
  - force sensors within the area people stand on
  - detection of the body's center of gravity
  - time required for turning around
  - Comparison to the *Wii Balance Board*
- Table with Built-in RFID-Antenna
  - RFID-surface with various features
  - touch sensors (e.g. for swiping motion)
  - built-in touch screen or iPad docking station



# Control Concept

- Control by Shifting the Body's Center of Gravity
  
- Position Sensor
  - detection of the body's center of gravity
    - detection of the incline based on the center of gravity
    - display of the tilt on cursor key of the game pad
  
  - detection of the speed of tilting
    - how long does tilting in one direction take



# Control Concept

## ■ RFID

- features are assigned to RFID-cards(- objects)
  - positioning cards on the table
    - feature is read out and activated
  - distinction between three different types
    - application card:
      - starts a game
    - participation card:
      - sends participation invitation to other players
    - playing card:
      - starts some action
- comparison: playing a card in a regular parlor game

# Control Concept

- Touch Screen / iPad
  - display of the game
    - game interface / animations
  - display of game information
    - current status (score, Whose turn is it?, etc.)
    - the other player's status
  - additional interaction surface
  - putting into action / confirming possible features
- touch screen
  - additional interaction surface
    - confirming invitations
    - navigation by means of swiping motion

# Application Scenarios

- Starting Applications
  - applications can be started via
    - menu-navigation and -selection
    - aids (direct selection)
  
  - navigation
    - via touch screen / iPad
    - or touch surface on the table
  
  - direct selection
    - positioning application card on the playing surface

# Application Scenarios

- Selection of Participants
  - with the help of a list of participants
    - via touch screen / iPad
  - by means of participation cards
    - cards are positioned in the play area
    - invitations are sent out automatically
    - problem: new participants
  - combination of both alternatives possible

# Application Scenarios

- Control via Force Sensors Built into the Floor
  - tilting into one direction causes movement in the game
    - example: steering a racing car
  - (relatively) quick shift of the body's center of gravity
    - stronger response in the game  
e.g. quick steering in a racing game

# Application Scenarios

- Triggering Events
  - selection based on RFID-cards
    - playing cards are marked
    - by positioning cards on the playing surface, different events are triggered
    - the principle of playing cards is known to most users
    - example: role play or board game
  - touching the screen
    - available features are displayed in the form of buttons
    - by pushing such buttons the respective features are selected
  - motion
    - basic features can be triggered by means of a swiping motion, e.g. *confirm* , *cancel*, etc.